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Psychological Bulletin

EDITED BY

SHEPHERD I. FRANZ, GOVT. HOSP. FOR INSANE

HOWARD C. WARREN, PRINCETON UNIVERSITY (*Review*)

JOHN B. WATSON, JOHNS HOPKINS UNIVERSITY (*J. of Exp. Psych.*)

JAMES R. ANGELL, UNIVERSITY OF CHICAGO (*Monographs*) AND

MADISON BENTLEY, UNIVERSITY OF ILLINOIS (*Index*)

WITH THE CO-OPERATION OF

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THE
PSYCHOLOGICAL BULLETIN

GENERAL REVIEWS AND SUMMARIES

HISTORICAL CONTRIBUTIONS

BY WOODBRIDGE RILEY

Vassar College

In the quarter centenary of the founding of the American Psychological Association the year 1917 is signalized by a variety of valuable retrospects. Jastrow (4) vividly portrays pioneer days in the development of our psychology, Johns Hopkins University being its rallying point, George T. Ladd's text book its first monumental work, and William James the genius who guided its early destinies. Here there have been five overlapping waves: (1) the direct analytical interest of the man of the laboratory; (2) the comparative interest which has yielded its interpretative product in the behaviorist position; (3) the growth of applied psychology from advertising to education, with an overgrowth which threatens to make our people efficient though incompetent; (4) concern with the abnormal, from the early "ghost hunting" of psychical research to the present Freudian psychoanalysis; (5) social psychology where the laboratory with its simplified and scheduled analyses finds its corrective in the intricate worldly composite of conflicting forces. G. Stanley Hall (3) recalls the opposition—twenty five years ago—to German philosophy as pantheistic, to experimental psychology as materialistic as instanced by the criticism of President McCosh of Princeton of Hall's laboratory at Hopkins. An interesting account is given of the early struggles of the *American Journal of Psychology*, and of the first membership of the American Psychological Association. Pillsbury (5) contrasts the state of the different branches of psychology in 1892 with the present. Then, educational problems were still treated in an a priori way;

psychiatry was influenced by Kraepelin, but the experimental study of the mental processes of the insane was hardly begun; animal psychology was largely a collection of anecdotes. Now, education is illuminated by the study of the child under the questionnaire method of and Hall, the statistical methods of Pearson; psychiatry by such establishments as the McLean Hospital, and by the clinical study of hysteria, to some degree by the Freudian psychoanalysis, and especially by the Binet and Simon tests of intelligence, which sociologically has correlated crime and poverty with mental incapacity. Finally animal psychology, beginning with Thorndike's method of trial and error has eventuated in the contributions of the behaviorists. Cowles (1) describes the general position of psychiatry in America in its theory and practice (1880-1890). (1) Alienists were then subject, by general consent, to the claims of pathological anatomy as the master science in general pathology. Twenty years later it was concluded that this was of more academic than practical interest to the psychiatrist. (2) Mental physiology was then a desideratum for true explaining principles and the alienists avoided the speculations of academic psychology which gave little aid. (3) The physical conditions associated with mental diseases, led to systems of classification based upon the etiology of mental disorders as sequences of general diseases. (4) Most significant was the adoption of the "supporting treatment," as a basis of the neurasthenic concept developed in the science of neurology. This led to the establishment of such a laboratory of bio-chemistry as that at McLean Hospital. This combination of psychology and chemistry with pathology is traced through various institutions to the present time.

As a summary of the last quarter century Washburn (8) points out how far psychology has enlarged its field of observation. The advance into new regions is suggested by a comparative study of the first volume of *The Psychological Index*, and the last volume. Unknown to the first volume were such headings as these: social psychology, educational psychology, psychoanalysis, psychology of values, psychology of testimony, religion and myths, advertising. Besides enlarging its field psychology has improved its methods of observation, such as the formulas for calculating correlation, the technique of studies on the sensory discrimination of animals and the increased emphasis upon introspection as a supplement to objective methods.

As a complement to the above, Franz (2) investigates the scientific productivity of American professional psychologists. This has been better dealt with in an impersonal way. Cattell's scheme was an

attempt to grade psychologists by the votes of a few selected individuals. Advances have been made by our psychologists, but by whom have the advances been made, and in what manner have individuals or groups contributed to that advance? For the decade 1906-1915 Franz offers such tables as these: (1) the kinds of published contributions; (2) the grouping of published contributions according to the yearly number of publications; (3) the numbers of expected contributors, or actual contributors, or those contributing articles and monographs; (4) the distribution of psychologists; (5) comparison of totals of contributions by the older and younger groups. Based on the *Psychological Index* some results are these: (1) the notable decrease in 1914 is unexplained, the European war not affecting American psychologists; (2) and (3) the average of contributions of the older men was double that of the younger; but from (4) and (5) this is discounted by the fact that the older group has the advantage of professional and mechanical assistance, and less labor in teaching.

As to the correlations between psychology and philosophy Sabine (6) claims that between 1850 and 1890 metaphysics was at a low ebb because of the lack of coördination with the sciences. But in the last twenty-five years there have been established relationships between biology and psychology, and psychology and philosophy superseding the deadening influence of Neo-Hegelianism, so prevalent in England and America. The artificial and unwholesome disorganization between psychology and philosophy under which parallelism flourished has been preceded by an effort to show the part played by mental operations in the total functioning of the organism. Similarly Tufts (7) maintains that in the last quarter century ethics has passed from the old categories, from Sidgwick to Paulsen, into a genetic study of morality. This has the advantage both of the wealth of new material offered by anthropology and of the methods of interpretation suggested by social psychology. From the standpoint of evolution ethics has ranged from the ultra-Darwinism of Nietzsche, to the recent views on value, where there is an increasing element of controlling the situation, and not simply of adaptation to it.

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GENERAL STANDPOINTS: MIND AND BODY

BY WALTER T. MARVIN

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During the past year behaviorism has continued to be a prominent subject of discussion. Watson (17) has attempted to formulate the scope of behavior psychology in an article whose material is to be used in the introductory chapter of his forthcoming book, *Human Psychology*. He describes the procedure of common sense, the procedure of science in interpreting behavior, and the divisions of behavior psychology and its relation to other sciences. In two articles Weiss (19, 20) points out the relations respectively between structural and behavior psychology and between functional and behavior psychology. First, without attempting to ascertain whether or not behaviorism is psychology, he endeavors to show that "the problems of the structural psychologist may be studied from the behavioristic point of view in accordance with the methods employed in the natural sciences and with a greater degree of simplicity than is possible from the structuralistic point of view." Since science recognizes only conscious states that express themselves in behavior of some form, this behavior alone calls for analysis. Again, since introspection is behavior (speech) and since introspection usually reveals only reactions to obscure stimuli, it is better to direct our study at once to behavior and especially to the major reactions, for these are the important objects to be investigated. Finally, behaviorism can analyze as far as structuralism, can present its phenomena as a causal series, and, if it succeeds in solving its problems, can solve all the problems of the structuralist also. Second, "the functionalists have never shown how mental activity may control action." On the contrary, the evidence shows that "conscious processes" follow and do not cause the conditions that modify behavior. Moreover, here as in structural psychology, verbal reactions have little if any influence upon the socially significant reactions.

In contrast with the foregoing Yerkes (21) finds Watson's dogmatic assertion of the adequacy of behaviorism and his refusal to admit the possible value of other presuppositions and methods "an 'illiberal attachment' to an assemblage of ideas which is in itself valuable, but which certainly does not monopolize the profitable possibilities of psychology or physiology."

Related to Watson's behaviorism is his hope (16) that "the men behind the psychoanalytic movement will come to realize that they have not built up a complete psychology differing *toto caelo* from anything which has existed before. When clearer discussion is possible we venture to predict that the one thing which will stand out as distinctly Freudian will be their utilization of the principle of *Uebertragung*." That is to say, by the method of conditioned reflexes emotional reactions can be bonded with new situations and these emotional reactions furnish the 'drive' absent in ordinary behavior. To an earlier and similar criticism of the Freudian psychology made by Watson, Jelliffe (11) replies that the behaviorist misunderstands the terminology of the Freudian and the place it occupies in practical psychology. The Freudian is not using the effete terms of psychology, rather he has taken many of those which had grown meaningless and sterile and has put new meaning and life into them. At this point two criticisms of Holt's book, *The Freudian Wish*, may conveniently be referred to. Neither author finds Holt a genuine Freudian. According to Watson (18) he is a behaviorist, but not a thoroughly consistent one. According to Calkins (3) he makes the self psychologically fundamental without having intended to do so.

Finally, three other articles should be mentioned here because of their explicit or implicit criticism of extreme behaviorism. Pillsbury (12) in discussing the new developments in psychology during the past twenty-five years refers to three types of psychological explanation at present apparent, at one extreme animism and at the other behaviorism and between these extremes the explanation of mental states in terms of other mental states. This last is adopted by the majority of psychologists. His own view is that "the choice of one rather than another of these general principles of explanation seems so little related either to the known facts or to the earlier experience of the psychologist that it can hardly be regarded as other than arbitrary." Against the attack of behaviorism upon introspection as a method of psychological research Washburn (15) raises three points. First, it is not because introspection has produced no results of scientific value that it is attacked by the behaviorist but because

he is not interested in states of consciousness and therefore thinks an account of them worthless. Second, introspection has been of extreme importance as a supplement to objective methods, for example, in the study of the learning process and even in abnormal psychology. Third, where, as in the study of the higher thought processes, no objective methods are available, the unsatisfactory condition of affairs is our own fault. "Why should we not recognize that conflicting descriptions of the same experience, on the part of trained introspectors, are each of equal value and authority, and simply mean that the experience in question really differs in different minds?" Carr (5) proposes the view that "the mental functions with which psychology concerns itself are in reality psychophysical, and at times neural, activities and that psychology shall study and attempt to comprehend these functions in their entirety." This view offers a way to mediate between the extremes of subjectivism and behaviorism; it changes our attitude toward the purposes and methods of comparative psychology; and it removes the serious difficulties of subjectivism.

At the December 1916 meeting of the American Philosophical Association the nature of the mental as contrasted with the physical was an assigned subject for papers and discussion. Fite (9) puts the question, Where in the world is consciousness? He replies, Where in the world is it not? It is not in the mind but in the world and everywhere in the world. It is the "familiarity" and "intelligibility" of things as opposed to their "strangeness" and "opacity." "In the familiarity and intelligibility of things we find our consciousness and ourselves; in their strangeness and opacity, the limitations of our consciousness and of ourselves." Again, "in the familiarity and intelligibility of things I find myself; but I am myself no less substantive an entity, and no less of an immediate and original fact or phenomenon, than the things with which I am familiar." Bode (1) maintains that the problem of consciousness must be attacked through a consideration of the facts of behavior. But not all behavior is conscious behavior, and therefore in differentiating conscious from other behavior we find the nature of the mental or psychical. "All consciousness is behavior directed or controlled by the environment with reference to a future result or a future adaptation." It is not specific response as such (Holt) but is an organized system of discharge. And this organization is not an inborn mechanism as is reflex action, but is experimental, flexible, and selective, and must be provided for continuously. Cohen (8) finds in a neutral monism

(or it may be equally well called a neutral pluralism) the basis for distinguishing the mental and the physical. "Every system, physical or mental, is but a class or selection of neutral entities, and therefore can be defined only by the character of the fundamental principles or postulates of the system." The physical is the class of entities to which physical laws are applicable and the mental the class of entities to which in turn psychological laws are applicable. And the two classes are not mutually exclusive. Pratt (13) defends a dualistic view. "Consciousness and the world of physical objects in space are essentially different from each other in kind." The psychical though spatial is not in space and exists only as functions of organisms. Some of the principal reasons for this dualism are: the subjectivity of emotions, meanings, images, and so forth; the privacy of the mental content; the innumerable different images derivable from one physical object by different observers and by the same observer at different times; and the physical and physiological facts of perception. Hoernlé (10) maintains, on the one hand, "if we want definitions of the mental and the physical as distinguishable entities in our universe, we should go to the sciences which need and offer such definitions, and not to philosophy"; and, he maintains, on the other hand, philosophy should point out that the objects of science are ideal constructions, abstractions, or selections. The mental and the physical do not exhaust between them the whole universe. Finally, if we "restore both terms to their context in concrete experience, we perceive that their relation is not one of mutual exclusion, but rather that mind is a distinctive form of activity exhibited by bodies of a certain structure." Urban (14) deals with a related problem, the knowledge of other minds. To know one's own mind is to know one's purposes, intentions, and meanings; and to know another's mind is to share his meanings, intentions, and values.

The general standpoints presupposed in self-psychology have been further discussed by Calkins (2, 4). First, self-psychology is to be distinguished from vitalism. The two doctrines oppose in common a mechanistic conception of psychology, but there the agreement ends. "For the heart of vitalism is its metaphysical conception of a soul which guides the organism in its growth and functioning, whereas self-psychology deals with the experienced self to which it attributes neither freedom, nor a peculiar potency, nor guiding force." Second, why do not all psychologists acknowledge the existence of the self? There is an historical reason. The self has been confused with the soul, and modern thought has wrongly discarded

the former with the latter. The self should be reinstated; for the valid objections that hold against the soul do not hold against the self. But the soul must go as a concept in psychology.

Two further general standpoints of psychology have been discussed. Chase (6) defends the doctrine of inheritance of modifications of behavior. "Glandular responses such as those given in strongly emotional situations become easily comprehensible if they are viewed as conditioned reflexes which, once set up in ancestral organisms, were transmitted." This view is supported by the experiments of Kammerer and the 'hormone theory' of Cunningham. Moreover, it accounts for the fact that many sorts of ancestral experience are not inherited. The same author (7) argues that students of social problems should base their theories upon the laws of human behavior rather than upon the laws of biology and economics.

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CONSCIOUSNESS AND THE UNCONSCIOUS

BY A. P. WEISS

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The contributions, by professional psychologists in which the term consciousness and its derivatives are placed at the center of gravity are becoming fewer in number, and the references are of a supplementary character in which either a structural or analytic attitude is taken for granted. Those who regard consciousness from the functional standpoint, while maintaining the interaction between mental activity and bodily processes, do not emphasize this relationship, preferring rather to leave the mind-body problem subsidiary to the actual analysis and investigation of human conduct.

Titchener (10) gives an excellent genetic analysis of the Wundtian concepts of consciousness and attention and also answers the objections raised by Britz (1) against the concept that sensory clearness is the elementary phenomenon in what is ordinarily called attention. A clear and concise exposition of the nature of cognitive and attributive clearness is incorporated in the discussion and gives the article its prime merit. Carr (2) suggests that more emphasis be given to the psychophysical and neural conditions in mental process. In teaching psychology much unnecessary confusion results because the exclusively subjective descriptions of traditional psychology are given independently of the neural basis. A complete description of mental phenomena should include both the psychical and physical aspects as a unified system. By a revision of the definitions in psychology so they will conform to the actual methods which already prevail we can do much toward the elimination of the sharp distinctions which confuse rather than enlighten students.

The need for definitely formulating the relation between the con-

scious and the subconscious when interpreting or requiring introspective reports is indicated in a discussion by Martin (4) who believes that our opinion of the value of some introspective data depends upon our view of the relation between the conscious and the subconscious, in fact, of the subconscious itself. What may be termed a borderline case between waking and dream consciousness is experimentally investigated by Yoakum and Hill (12) in the case of Miss Z., in which groups of twelve consonants that were to be memorized were reproduced by free associations which formed the outline of a story. The peculiarity of these stories lies in their resemblance to dreams, having the same sort of symbolism, wish-fulfillment and expression of 'repressed complexes.'

The conservatism in the use of the term consciousness characteristic of the professional psychologist is not shared by the psychoanalysts who crowd man with a host of the spirits of departed and not always noteworthy ancestors to intrude themselves into all that is bad and the little good that is left. This school would do well to realize that to say a 'subconscious process elaborates an idea to escape the censor' is merely a fanciful way of indicating that the consciousness of a normal person is different than that of the abnormal. Neurologists have failed to find a 'censor,' the 'libido,' the 'psychic energy' and the host of other entities that are introduced. It is simpler and far more scientific to merely state the facts. Such statements as 'the unconscious succeeds in breaking through without the necessity for a direct attack upon the barriers of the censor, which are rather circumvented in a clever manner,' belong to the realm of poetry or mythology; not to science.

The biological concept of recapitulation in the embryological development of the individual is applied to psychopathic conditions by Jelliffe (3) who believes that in a limited sense we may regard the psychic development of the individual as a recapitulation of the psychic evolution of mankind, which however is much obscured by the variable nature of verbal forms of expression. An interesting technique (psychogram) for recording the psychopathic conditions of a patient is also developed. Following along the lines laid down by Rousseau, Ring (8) defines psychoanalysis as a method for discovering in the mind forgotten experiences, the emotional tone of which is still active and is the determining cause of physical or mental conditions. Parsons (5) raises the question whether the gradual disappearance of the belief in evil spirits in modern culture may not be due to the general weakening of the instinct and emotion of fear.

Reminiscent of vitalism and faculty psychology is the article by Rank and Sachs (6) in which every affect, and the idea invested by it, has a natural tendency to appropriate as great a part of the mental life as possible as a consequence of affective forces. A comprehensive attempt is made to show the significance of the myth and legend for revealing the nature of some of those mental mechanisms which clamor for expression, but are never permitted to express themselves in their primary form. When the same sort of interpretation is extended to the social sciences (7) we find that a psychoanalytic examination of the fundamental concepts underlying the social sciences reveals a definite phylogenetic series from old mental attitudes which have been abandoned as unsuitable, to the modern conceptions which represent the most refined methods by which the originator was able to circumvent the censor.

Among the psychoanalysts who feel the need for restraint in the multiplication of entities are Solomon (9) who believes that the analytic methodology and the dynamic view-point of mental mechanisms as developed by the Freudians has done much to bring system and order into mental science, but cautions against the tendency toward loose and unclear terminology, the overemphasis of psychical determinants and the exaggerated importance given to infantile and early childhood tendencies. Psychobioanalysis is suggested as a suitable name for the broader conception of psychoanalysis which is supplemented by an analytic study along evolutionary and developmental lines, of the instincts, mental and moral qualities, tendencies and general makeup of man. In referring to the symbolic form in which consciousness often appears, White (11) concludes that what in consciousness would be regarded as anti-social and unconventional, may express itself in symbolic form and thus effectively disguise from the subject a consciousness that otherwise would be painful.

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DREAMS

BY ELLIOTT PARK FROST

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The dream theories of Bergson, Freud and Maeder, previously reviewed, are still being discussed by several writers. Bergson's belief that the dreamer possesses a relaxed consciousness is denied by Horton (10); and the more vigorous rôle ascribed to consciousness by Freudian theories, is upheld: irrelevancy in dreams is not due, as Bergson would have us believe, to lack of sufficient energy on the dreamer's part to summon the correct image, but rather to the fact the dreamer is pre-stimulated and over-prepared in the direction of the irrelevant response. Marshall (13) agrees with Bergson that the nature of our dreams is clearly statable in that part of consciousness of which we are aware, and involves no subtle mystery such as Freud would weave about it; dismissing Freud with the remark that while the practical value of Freud's work in relation to Hysteria and kindred problems may long be remembered "his theory of dreams will soon be laid aside as untenable and forgotten."

Crenshaw (3) cites six dreams to substantiate his thesis that retaliation or revenge-motive dreams are as important if not as frequent as sex-motive dreams. Horton (11) also criticizes Freud in that he fails to reveal the inner nature of dreams other than those with sex phantasy at work, and in that he fails to give the *modus operandi* of dreaming as a process of thinking. He contrasts the "reductive methods" of Freud and the "constructive methods" of Jung, with his own "reconstitutive method." This method aims "to 'reconstitute' the dream-thought . . . by tracing the wave of nervous excitation from its origin in primary stimulus-ideas . . . through a

specific apperception-mass into a consequently derived system of secondary images which form the manifest dream content." For instance, such a stimulus-idea as might be caused by the actual scratching of a mouse in the sleeper's room, constitutes a problem which the dreamer, by a process of trial and error, attempts to resolve and interpret; the dream is the result. This would agree with Marshall (13): "In what we call our dreams we catch for the moment . . . certain mental items that were relatively emphatic in the psychic field during sleep, before the threshold was raised."

Savage (16) believes that a study of dreams may assist in diagnosis in many cases of mental disturbance; that erotic dreams may give rise to false charges of assault in neurotic persons; and that "happy dreams" in cases of chronic melancholia are indicative of a favorable prognosis. Jelliffe (12) scores the spirit of levity in one of Maeder's critics and in general defends the right to be heard, of the Freudians, implying that many of their harshest opponents are but exhibiting a defense reaction—an *ad hominem* argument difficult of refutation (cf. 18).

Several writers bring us fresh material and new opinions on the dream problem. Y. Delage promises us a book on the subject and several chapters appear in various periodicals (*e. g.*, 4, 5, 6). Perhaps the most stimulating of these original treatments are those of Horton (9) and of Gregory (8). Oneiric (*i. e.*, "dream-") conversion, says Horton, is produced by residuary facilitations in prepared neurograms (using Prince's term); that is to say, an actual stimulus from the outside world, *e. g.*, a *door-slam*, becomes in the dream a different stimulus-idea, *e. g.*, a *shot-fired*, and engenders a rapid train of corollary ideas, such as 'battle,' 'marching,' and the like; because for some reason (explained by the previous experience, dream or real, of the sleeper), the "shot-fired" association finds neurograms already mobilized, and the irrelevant "door-slam" idea does not. Therefore the latter, though actually the prior stimulus, succeeds in crossing the threshold of awareness, if at all, only after the better facilitated "shot-fired" association has done so. There is therefore an apparent time inversion: the "shot-fired" dream appears to precede the "door-slam" consciousness, which latter may actually, however, arouse the sleeper.

Gregory (8) is also interested in the time-aspects of the dreaming state. He agrees with Seashore (17) that a dream may pass like a flash, and appear to last for hours, or days—a statement so often made that it is almost a platitude, yet one whose facts supporting, have

never, to the reviewer, appeared convincing. Gregory further explains "the disturbance of the time-sense in dreaming" as due "to the expanding effect of a sudden or explosive rise of interest" on the part of the dreamer. He believes it an error to regard dreams produced by a disturbance that awakes us, as occurring during sleep: "they occur explosively during the momentary period in which the mind springs from unconsciousness to its waking realization of the world." As the mind breaks away from the unconsciousness of sleep and "springs forward in a sort of psychical explosion, some sensations may obtrude themselves and a hurried context is supplied to them from memory"; and context and sensations fuse to produce the dream.

Much more original work remains still to be done in investigation of the temporal aspects of dreams. Curiously enough material is, if anything, over-abundant. Anyone who has made a serious effort to study his own dreams will sympathize with Seashore who confesses he has "found it advisable to abandon the intensive study of dreams" in the interests of sleep. Perhaps it explains, too, the same author's conclusion: "there is perhaps no dreamless sleep"!

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TERMINOLOGY

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Dunlap (1) sought the opinion of 125 American psychologists, selected for seniority in years of service, in regard to the use of the terms *experience*, *consciousness*, *content of consciousness*, *thought*, *sensation*, *sense datum*, and certain cognates. The results, according to the author, reflect the confusion which exists at present concerning the fundamental concepts of psychology, but indicates a favorable outlook for improvement. "The term *experience* seems hopeless of standardization." *Consciousness* has lost some of its earlier meanings; there appears a tendency to limit it to *awareness* or cognition. He finds also a tendency "to use the terms *thought* and *sensation* for forms of awareness" (53). *Sense datum* is favored as denoting the object of awareness. (This investigation led to the appointment of a committee on terminology by the American Psychological Association, whose report is forthcoming.)

Pillsbury (4) defends the use of the term *behavior* to describe the object of psychology in the broadest sense. He insists that our fundamental definition should be "the servant of our science, not its master." It should "state the aims of the science in the briefest form possible, and in terms that shall be best understood by the individuals for whom it is intended, that shall be least open to misunderstanding" (372). In contrast with the more subjective terms, *behavior* includes processes of our active life—habit, instinct, learning, etc.—which have little or no relation to consciousness. His plea is for an enlargement of the connotation of the term *behavior*, rather than a limitation of the field of the science.

Tawney (5) on the other hand considers *behavior* too broad and ambiguous a term to use in characterizing the subject-matter of psychology, since it may denote such varied activities as "the action of oxygen or the motion of a comet" (29). Even *intelligent behavior* is too vague, for "in what sense can the behavior of lower organisms be said to display intelligence?" (29). "The fundamental fact of

mental life is the fact of value, the tendency of psychic organisms first to select and then keep within their control whatever is necessary to their life" (31). For this type of behavior he proposes the term *aesimation*. The discussion illustrates the chasm between voluntaristic and comparative psychology.

Two contributions from neighboring fields may be noted. Fuller (2) in proposing a revision of nomenclature protests against the use of proper names in brain and cord anatomy (*e. g.*, Rolando, Gowers, Goll, Clarke) on psychological grounds. Such names involve abstract memory; they bear no reference to the location or functions of parts, and are needlessly difficult to learn and retain. (The names of diseases—Pott's, Bright's, etc.—present similar difficulties.) Psychology is comparatively free from this evil, but a few instances, such as Purkinje phenomenon and organ of Corti, will come to mind.

Osborn (3) following Gregory distinguishes between *heritage* and *habitus*, the former denoting the totality of inherited or "palaeotelic" characters, the latter the totality of recent adaptive or "caenotelic" characters. (We should not confuse the *habitus* with *habits*, *i. e.*, individually acquired characters.)

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TEXT-BOOKS AND GENERAL TREATISES

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The only new text-book of general psychology this year is that of Breese (11). It is a book of the conventional type, clearly written and systematic. The author does not attempt to give new theories nor to make any important changes in the traditional psychological doctrines. There are, however, two distinctive features. Different views are presented upon controversial points, and the reader is thus

given a very comprehensive view of the subject. This makes the book useful to advanced students as well as to beginners. Secondly, the author has not treated his subject from one point of view, but under each topic has given relevant introspective data from structural psychology and the facts derived from functional, genetic and physiological psychology. He has held to this method so consistently that in some instances he is forced to offer very hypothetical descriptions. It must be added, however, that the reader is made clearly aware of that which is mere speculation. One notices the influence of James and Titchener. After a short introduction setting forth the scope and methods of psychology and the nature of consciousness and mind, there follows a description of the nervous system with illustrations, which throughout the book are well chosen and excellently reproduced. Between this and sensation is a chapter upon attention. The general facts of sensation such as their classification, after-effects, adaptation, *etc.*, precede a detailed description of the individual senses beginning with the lower senses. Under perception are found recognition and meaning, illusions, hallucination, and space and time. Memory begins with a description of the image. The three stages in the memory act, retention, recall and recognition, are explained as well as the methods of memorizing. Since mental images of past experience are necessary for memory, it is evident that memory and imagination overlap. The latter subject, therefore, logically follows. Separate chapters are devoted to conception, judgment and reasoning. There is a psychological description of the nature and genetic development of the concept. The distinction is made between the concept produced by unreflective thinking, which is termed the psychological concept, and that which follows strict logical thought, called scientific concept. The various theories of the nature of judgment are reviewed and the forms of judgments described. The process of thinking is given according to Dewey. The imageless thought problem is also described. After chapters upon affection and the emotions there is one upon "Consciousness and Behavior," in which one finds descriptions of reflexes, habit, an analysis of the volitional act and the learning process and a statement of the law of dynamogenesis. In the chapter upon the will there is a discussion of the possibility of the *fiat*, with reference to authors for and against this concept. The normal and abnormal experiences of the self are contained in the last chapter.

The new edition of Judd's *Psychology* (5) is so thoroughly revised that it will be welcomed as an addition to the present list of useful

text-books. Two chapters have been added, but the new book is nevertheless somewhat shorter than the old, as almost all the chapters have been reduced in size by omitting controversial points and theories difficult of comprehension by beginners. There are changes in almost all the chapters and six of them have been almost entirely rewritten. The doctrines of functional psychology are further developed and the psychology of attitudes receives more emphasis. The order of the chapters and most of the headings have been changed. The first part which is concerned with the nervous system and sensations has been little altered. Greater emphasis has been placed upon a system of classification according to the nervous processes. Attention is called to the necessity of not leaving a classification to the "accidents of introspection." "Experience and Behavior" is a new chapter. Here we have explained the relations of the sensory factors to reaction. Interest, recognition and the selective character of consciousness in general are explained. The reader is told that introspection over-emphasizes the sensations. Attitudes are explained and attention is shown to be conditioned by organization and coordination of the individual's active processes. The chapter formerly called "Experience and Expression" is now "Certain Fundamental Attitudes." There is less about the esthetics of rhythm and harmony. "Sensations and their Functional Relations" is now "Combination and Arrangement of Sensations." In the chapter "Speech as a Form of Behavior" the place of gestures in the development of speech is mentioned and illustrations of the development of written symbols have been added. In "Memory and Ideas" the subjective character of ideas and reference to Galton are omitted and the part concerning the image has been cut. The author realizes that much that was written about judgment belongs to logic, so that the chapter "Imagination and the Formation of Concepts" has been shortened. On account of controversial points, the chapter on "The Idea of the Self" has been greatly reduced. In his preface the author states that the chapter on volition has had to be rewritten to make it in keeping with his view of the importance of consciousness in evolution. The treatment is more objective and less open to the criticism of faculty psychology. A chapter on "Mental Hygiene" is new. It offers useful suggestions for increased mental control.

Hollingworth and Poffenberger (3) have written the first book that can be used as a general text in a course in applied psychology. The book may be divided into two parts. Somewhat more than half considers the results of modern behavior psychology which bear upon

the efficiency of the individual. The other part consists of the "attitude, content, and technique" of psychology in their practical aspects. The authors have presented a great many facts of use both to the individual and to the group, and have pointed the way for future development. There are descriptions and results of experiments bearing upon the points in question. Reference is frequently made to the researches of Thorndike, and of the authors and their pupils. A few experiments are given in some detail, but there is very little description of methods or technique. The book is essentially an introductory text and not a manual. The first point to be considered relative to individual efficiency is the influence of heredity. Mention is also made of the peculiarities of the various races. The inheritance of mental defects is discussed at some length, and the agitation in various states for control of marriage is described. There follows a chapter on the learning process and another on the influence of sex and age. Some of the results of mental tests to determine the differences between men and women are given. The difference between mental and physical age is described at some length. Several chapters are devoted to environmental condition. The effect of climate, seasons of the year, the weather, temperature, and humidity are most important when considering efficiency. The next chapter includes the physiology and psychology of fatigue and recuperation. A number of problems concerning the effect and amount of sleep is considered. A relatively large space is devoted to the value of various foods. In that part of the book devoted to the application of psychology to special fields, the first problem is that concerning the executive. There are here included the results of tests for vocational selection, and mention of the work of Gilbreth and Taylor in scientific management. In the next chapter the psychology of the worker himself is described. A chapter on the "Psychology and the Market" deals with the psychology of emblems, trademarks, with experiments upon trademark infringement, and with advertising and salesmanship. Under "Law" one finds the free association method, the influence of suggestion upon testimony with illustrations from Muscio's investigation, and the usefulness of psychology in juvenile courts. The chapter concerned with social work lays special emphasis upon delinquency and deficiency. Under "Psychology and Medicine" tests for motor and mental behavior are mentioned. In discussing the effects of drugs, attention is especially directed to controlled groups and controlled doses. In dealing with the educational problem the importance of analyzing the various processes involved in learning the numerous school subjects is explained.

Gordon's *Educational Psychology* (2), besides being a text-book for introductory courses in education, presents in condensed form useful information and helpful suggestions both to parents and teachers. Although the author states that an elementary knowledge of psychology is presupposed, the facts are stated so clearly and with such an avoidance of technical language that little preparation is necessary. The first part of the book is concerned with growth. There is a description of physical growth, of seasonal variation in development, and the relation of physical to mental growth. The various instincts including sleep, dreams, fear and play are discussed in so far as they are related to pedagogy. A description of the motor activities is concerned principally with motor control. Data concerning the sensitivity of the various senses are given under "Sensory Capacities." The learning process is analyzed with special reference to the methods of the learning curve and the rôle of pleasure and pain. In the chapter upon imagination much space is devoted to the function of the image and the various types. A short chapter deals with the reliability of children's observations and reports, and a chapter on memory, beside presenting the fundamental facts, offers some original data from experiments which show the importance of learning by context. Three chapters are devoted to the various processes involved in thinking. An original method of teaching syllogisms by means of colored circles is described. The nature of the transfer of practice is the subject of the next chapter which is followed by useful information concerning the attention and the control of feelings. The last three chapters take up the practical problems of teaching language, drawing and arithmetic. There are curves, tables and illustrations throughout the book.

The main change in the new edition of Starch's book, *Experiments in Educational Psychology* (10), is the addition of three short chapters. In the chapter upon individual differences a method is described of obtaining the speed in reading a prose selection, the degree of comprehension and the extent of the vocabulary of the individual. In another chapter a method is explained for ascertaining the distribution of marks given by the teacher to the class, and of determining how the various teachers differ from each other and from the normal distribution curve in this regard. A third chapter explains the use of the correlation formula.

Three volumes have appeared of the series entitled "Our Senses and What They Mean to Us," edited by G. V. N. Dearborn. Although they will probably not be used as text-books, the teacher may

consider using them as collateral reading in an elementary course, and for that reason they are included in this summary. The editor, however, desires them primarily to appeal to the layman. Being written by different authors, we must expect them to vary in value and treatment. The longest and the most inclusive of the three, (equal to about 100 pages of the BULLETIN), is *The Sense of Taste* by H. L. Hollingworth and A. T. Poffenberger (4). The subject is introduced by a description of the qualities of taste and its relation to smell and the important experimental facts. Several chapters are devoted to the anatomy and physiology of the sense. The part that taste plays in imagination and hallucination and the abnormalities of taste are touched upon. There is a short account of the biological significance of the sense and a comparatively long chapter upon its relation to esthetic experience. This last chapter is especially concerned with an explanation of the insignificant rôle that the lower senses play in the field of art.

The Sense of Sight is by F. N. Spindler (9). The book is very popularly written, and the facts are explained by numerous examples which will appeal to the general reader. The larger part of the book is concerned with the conventional topics. In the chapter upon the visual type, the author describes some original experiments. In the part on the emotions in relation to vision, the author ascribes the pleasantness to inherited and associative factors of a biological character. He describes at some length the necessity and means of developing visual perception in the child, and finally, he cautions us in regard to the care of the eye.

The subject of H. T. Moore's book, *The Sense of Pain and Pleasure* (6), offers the greatest opportunity for original treatment. In the preface he states that he has placed unpleasantness under pain and tickling under pleasantness, although he is aware that there is much to be said against such a classification. He begins by a description of the three types of pain: surface pain, bodily distress and unpleasantness. The three types of pleasure are tickling, gratification and pleasantness. He then sketches the genetic development of these sensations. In the chapter upon the meaning of these sensations it is stated that pain indicates a too great demand by the environment upon the organism and pleasure the presence of a conflict to which the organism is equal. The chapter upon the effect of pleasure and pain upon the organism leads to a description of the physiological mechanism underlying these sensations, and to the "Diagnostic Value of Pain." A few pages are devoted to "Æsthetic Pleasure,"

and there follows a brief description of play. The last chapter points out that the pursuit of pleasure must not be a direct one. The value of the book is increased by a good summary at the end of each chapter.

Wells's book, *Mental Adjustments* (12), which is one of "The Conduct of Mind Series," should be briefly reviewed here on account of the broad sketch it presents of the mechanism of the human mind, although it will probably also be found with the books upon mental hygiene. It shows a pleasing style and has that individuality so happily possessed by the author. It is replete with interesting facts and acute observations which will stimulate even those who may disagree with some of the contents. The adjustments are concerned chiefly with the fundamental sexual life of the individual, and with the relation of this instinct to the other activities of the organism. The opening chapter upon "Mental Adaptation" with its comments upon imagination and day dreams, and upon education is an introduction to what is to follow. In "Use and Waste in Thought and Action" the author makes clear with numerous examples the difference between autistic and realistic thinking and the place of each in the mental life. In "Symbolic Association" is shown the resemblance between symbols which have entered ordinary language, especially through the influence of tabus and the symbolism of dreams. In "The Continuity of Emotions" is described the transfer of emotions in normal and abnormal conditions which give rise to affective symbolism. In "Types of Dissociation" are included a wide range of such phenomena from the purely organic ones of paralysis of the lense and hemiplegia to the functional disturbances of multiple personality. The mechanism of dissociation is explained by the conflict of trends or moods. There is a concise account of the numerous methods of testing intelligence and character. The final chapter is upon the "Balancing Factors." Here are described the sexual, social and economic factors and their proper adjustment, with special attention to the marital relation and education.

Stratton's translation of Theophrastus (11) begins with a brief exposition of Theophrastus's *De Sensibus* including an evaluation of his writing, a description of his doctrine and methods of exposition and criticism and short chapters upon the topics treated: *e. g.*, vision, hearing, smell, taste, touch, pleasure and pain. There then follows the Greek text and an English translation on opposite pages and finally extensive notes upon the translation and text. The book is valuable for an historical course.

Although Parker's book, *The Self and Nature* (7), is primarily a

philosophical metaphysical treatise, it contains chapters which will be of some interest to psychologists concerned with the fundamental hypotheses of their science. The author commences with a discussion of the nature and unity of the self. "The activities are interwoven among themselves and with the content, and this woven web is the mind." The author believes in personal identity, an identity which may be more or less, but which has reality in spite of the discontinuity of consciousness. Perception, time, space, and causality are treated metaphysically. In discussing the problem of the relation of mind and body the author criticises the theory of the instrumentalists, that the body is a tool of the mind. He believes that the functional character of images proves that mind is dependent upon the body.

Restrepo-Herandes' *Anthropologia* (8) is in most respects a psychological treatise. The author's object seems to be to reconcile modern theories with scholastic doctrines. It may be of interest to students of the history of psychology.

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NOTES AND NEWS

THE laboratory of psychology at Mount Holyoke College was burned December 20, with the loss of much apparatus and books. The director of the laboratory, Professor Samuel P. Hayes, would be very glad to receive for the use of the laboratory books and reprints of articles bearing upon psychology which may be offered.

THE following items have been taken from the press:

DR. EDGAR A. DOLL, who has been assistant psychologist in the Training School at Vineland, N. J., has been appointed an instructor in psychology at Princeton, N. J.

DR. GEORGE R. WELLS, associate professor of psychology in Oberlin College, has been appointed professor of psychology and head of the department at Ohio Wesleyan University.

PROFESSOR M. E. HAGGERTY, of the college of education of the University of Minnesota, has received a commission as major and has gone to Washington to take up his duties in the psychological division of the army.

DR. FRANCIS N. MAXFIELD, who has been assistant professor of psychology and assistant director of the psychological clinic at the University of Pennsylvania, leaves the university on February 1 to become psychologist in the Public School Clinic of Newark, New Jersey.

WE regret to see the announcement of the death, of the veteran alienist, Dr. Henry Maudsley, for many years editor of the *Journal of Mental Science*. His *Responsibility in Mental Disease* appeared in 1874, and was first of many works such as *Physiology of Mind*, *Pathology of Mind*, and *Body and Will*.

